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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,312	11/10/2003	Ricky Dion Barnes	5198-001	4460
24112	7590	06/08/2006	EXAMINER	
COATS & BENNETT, PLLC P O BOX 5 RALEIGH, NC 27602			CHYN, AILEEN	
			ART UNIT	PAPER NUMBER
			3715	
DATE MAILED: 06/08/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/705,312	Applicant(s) BARNES ET AL.	
	Examiner Aileen Chyn	Art Unit 3715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications through the applicant's amendment filed on 03/20/2006. Claims 21-40 are pending. Claims 1-20 are cancelled.

Claim Objections

2. The claims are objected to because the lines are crowded too closely together, making reading difficult. Substitute claims with lines one and one-half or double spaced on good quality paper are required. See 37 CFR 1.52(b).
3. Claim 25 is objected to because of the following informalities: On page 2, "360 °" should be corrected to the phrase "360 degrees". Appropriate correction is required.
4. Claim 30 is objected to because of the following informalities: On page 3, "rotatably" is a grammatical and typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 21-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

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which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 21-40, the claimed limitation, "safety-critical elevation" is not sufficiently supported by the teaching in the specification.

In claims 21-40, the claimed limitation, "free space" is not sufficiently supported by the teaching in the specification.

In claims 21-40, the claimed limitation, "intrusion" is not sufficiently supported by the teaching in the specification.

In claim 23, the claimed limitation, "spaced away from the emitter" is not sufficiently supported by the teaching in the specification.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 recites the limitation "an emitter head that is rotatably mounted". The examiner is unclear the exact limitation of how the to mount an object "rotatably" (e.g. an emitter head is capable of being rotated (through external forces) when mounted about a vertical support or an emitter head that is continuous rotating when mounted on a vertical support). The examiner assumes the emitter head is capable of being rotated

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when mounted to the vertical support member. Therefore, these claims are rejected as being indefinite.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 21-23, 26-27, 29-32 and 34-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerber (US Patent No. 5,788,500)

With respect to claim 21, Gerber discloses a system for training emergency personnel...the system comprising:

an emitter configured to establish a plane in free space at a safety-critical elevation (Abstract, "The system uses continuous wave lasers and high-power light-emitting diodes (LEDs) to simulate weapons. A continuous wave laser energy beam...", wherein the "CONTINUOUS WAVE LASER ENERGY BEAM" is analogous to "AN EMITTER...TO ESTABLISH A PLANE"; col. 2, lines 26-29, "The system uses CW lasers and high-power light-emitting diodes (LEDs) to simulate all types of weapons, including, but not limited to, rifles, pistols, hand grenades, tanks, and land mines. In each case, the weapon is used normally by the soldier and a beam of energy is used to represent the effects of the simulated weapons, be it the firing of a bullet, the explosion

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of a hand grenade, and so on, as realistically as possible.”, wherein the laser simulation establishes a plane in free space at a safety-critical elevation); and

a wearable sensor configured to emit an alarm signal responsive to its intrusion into the plane (Figures 1-4 depicts wearable sensors; col. 2, lines 33-36, “All participants in the exercise (both personnel and objects such as tanks, aeroplanes, jeeps, trucks, and so on) are outfitted with detectors...”, wherein “OUTFITTED DETECTORS” are analogous to “WEARABLE SENSORS”; col. 3, lines 40-42, “Scattered light on the body of the soldier or tank is enough to trigger a present invention sensor,”).

Claim 22 is rejected for the reasons set forth hereinabove for claim 21 and furthermore Gerber discloses a system further comprising an adjustable vertical support to position the emitter at the safety-critical elevation (col. 7, lines 53-61, “Referring now more particularly to FIGS. 10-16, ...a laser target pointer 4 mounted securely onto a weapon 110 in the same manner as a targeting telescope ... The front section 114 contains a semiconductor CW laser 120 and horizontal 121 and vertical 122 adjustment means...”, wherein “CW” is analogous to “continuous wave” and the secure mount for the laser target pointer is analogous to the vertical support for the emitter; col. 14, lines 64-67 to col. 15, lines 1-4, wherein discloses vertical adjustments to the emitter.)

Claim 23 is rejected for the reasons set forth hereinabove for claim 21 and furthermore Gerber discloses a system further comprising redirecting elements spaced away from the emitter to receive a signal from the emitter and extend the plane (col. 18,

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lines 18-20, wherein the ricochet of the laser beam off the wall to extend the plane is analogous to a redirecting element spaced away from the emitter).

Claim 26 is rejected for the reasons set forth hereinabove for claim 21 and furthermore Gerber discloses a system wherein the emitter is an optical device that emits an optical beam (col. 1, line 44, wherein "OPTICAL POWER EMITTED" is analogous to "OPTICAL BEAM"; col. 3, lines 1-5; col. 9, lines 9-11).

Claim 27 is rejected for the reasons set forth hereinabove for claim 21 and furthermore Gerber discloses a system wherein the sensor further includes a speaker to emit an audible sound responsive to intrusion into the plane (Figures 27, 33 and 36; col. 1, lines 34-35, "The target vehicles or troops are made instantly aware of the accuracy of the shot by means of audio alarms", wherein intrusion of an emitted a laser beam is analogous to intrusion into the plane; col. 11, lines 8-12).

Claims 29 and 35 are rejected on grounds corresponding to reasons given above for claims 21 and 22.

Claims 30-32 are rejected for the reasons set forth hereinabove for claim 29 and furthermore Gerber discloses a system wherein the emitter further comprises an emitter head that is rotatably mounted to the vertical support member and configured to selectively position the emitter at selected angular positions (col. 7, lines 53-61, wherein mounting the laser target pointer on the vertical support of the targeting telescope inherently allows the user to rotate the pointer (emitter head), and to position the emitter to selected vertical and angular positions in order to aim for a target anywhere on a simulation battlefield; col. 14, lines 64-67 to col. 15, lines 1-4, wherein discloses vertical

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and angular adjustments to the emitter; col. 1, lines 26-27, wherein vehicle mounted laser beams are analogous to emitter heads mounted on a vertical support member; col. 11, lines 13-14 disclose an angle sensor which senses emitters set at selected angular positions).

Claims 34 and 39 are rejected for the reasons set forth hereinabove for claims 29 and 35 respectively and is rejected on grounds corresponding to reasons given above for claim 27.

Claim 36 are rejected for the reasons set forth hereinabove for claim 35 and is rejected on grounds corresponding to reasons given above for claim 22.

Claims 37 and 38 are rejected for the reasons set forth hereinabove for claim 35 and is rejected on grounds corresponding to reasons given above for claims 30-32, wherein parallel to a floor is inherently one selected angular position relative to the floor (e.g. 180 degrees).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber (US Patent No. 5,788,500) in view of Dando (US Patent No. 6,127,926).

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Claims 24 and 25 are rejected for the reasons set forth hereinabove for claims 22 and 35 respectively and furthermore Gerber discloses a system further comprising a second emitter (abstract; Figure 38 and col. 2, lines 26-37, wherein discloses additional emitters (laser simulated weapons))

However Gerber does not explicitly disclose the second emitter as configured to combine with the emitter to establish the plane in free space at the safety-critical elevation, wherein the emitter establishes a 360° detection zone that forms the plane.

Dando discloses an intrusion sensing system, wherein a plane is established from emitters and wherein an alarm will sound responsive to intrusion into the plane further comprising:

a second emitter as configured to combine with the emitter to establish the plane in free space at the safety-critical elevation, wherein the emitter establishes a 360° detection zone that forms the plane (Figures 9, 10 and 12, wherein a second additional emitter is placed to establish the plane with the first emitter and wherein the emitter establishes a 360 degree detection zone around the emitter; Figures 17, 21 and 22 depict rotating the emitter about the adjuster to establish the first boundary by FIG. 17 by circular polarization).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a method and system of establishing a plane from emitters at a safety-critical elevation wherein a second emitter as configured to combine with the emitter to establish the plane in free space at the safety-critical elevation, wherein the emitter establishes a 360° detection zone that forms the plane as disclosed

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by Dando into the method and system for a continuous wave laser battlefield simulation system as disclosed by Gerber to provide detection of intrusion of vertical surfaces (col. 1, lines 7-8) and to provide a larger detection zone around the vertical support (col. 2, lines 8-10 and col. 16, lines 15-17). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

13. Claims 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber (US Patent No. 5,788,500) in view of Bracewell et al., "Bracewell" (US Patent No. 6,358,164 B1).

Claims 28 and 33 are rejected for the reasons set forth hereinabove for claims 21 and 29 respectively and furthermore Gerber discloses a system further comprising a remote control unit (Figure 1; Figure 26; Figures 28-30; Figure 34)

However Gerber does not explicitly disclose the remote control unit to remotely control a vertical position of the emitter to adjust the plane.

Bracewell discloses batting training system and method employing a zone established by emitters wherein a remote control unit to remotely control a vertical position of the emitter to adjust the plane (Figure 2, 5-6; col. 4, lines 47-56, wherein the position of the emitters are remotely adjusted).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a training system employing emitters to establish a plane with a remote control unit to remotely control a vertical position of the emitter to adjust the plane as disclosed by Dando into the method and system for training

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employing continuous wave laser to simulate a battlefield as disclosed by Gerber to provide generation and aim of laser beams to create a zone to detect intrusion for purposes of training (col. 2, lines 45-63). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success

14. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerber (US Patent No. 5,788,500).

Claim 40 is rejected for the reasons set forth hereinabove for claim 35 and furthermore Gerber discloses a method further comprising configuring the wearable sensor to emit an alarm signal when the sensor detects the optical emitter (abstract).

However Gerber does not explicitly disclose to stop emitting the alarm signal when the sensor is positioned back below the safety-critical vertical elevation.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the alarm attached to a sensor responsive to intrusion into an optical emitter plane, to stop emitting the alarm signal when the sensor is positioned back below the safety-critical elevation. Gerber discloses a continuous wave laser battlefield simulation system wherein once a sensor is activated (by entering in the optical emitter plane), the trainee is asked to lie underneath the optical emitter plane until the sensor is reset to conduct another training simulation. The examiner takes **OFFICIAL NOTICE** that configuring the wearable sensor to stop emitting an alarm signal when the sensor is positioned back below the safety-critical vertical elevation are

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well known in the art to provide additional training sessions. Therefore, it would have been obvious to modify Gerber to stop emitting the alarm signal when the sensor is positioned back below the safety-critical vertical elevation for the purposes of training.

Response to Arguments

6. Applicant's arguments regarding cancelled claims 1-20 and newly added claims 21-40 have been fully considered but are moot in view of new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

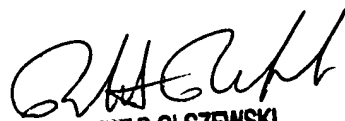
Contact Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Chyn whose telephone number is 571-272-7176. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Olszewski can be reached on (571) 272-6788. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 2, 2006
A.C.

 6/5/06
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